

Aayansh Yadav

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🌐 LinkedIn | 🐙 GitHub | 📄 LeetCode | 🏆 Codeforces

EDUCATION

Indian Institute of Technology, Madras
BS, Data Science and Applications

Chennai, India
2023 – 2027 (Expected)

- **CGPA: 8.96 / 10**
- **Relevant Coursework:** Data Structures & Algorithms, DBMS, Operating Systems, Computer Networks, Object-Oriented Programming, Machine Learning, Deep Learning, Statistics, Mathematics.

EXPERIENCE

Software Engineer Intern - Straive

Aug 2025 – Oct 2025

- Built **cyberdetect**, a client-side log-analysis tool with 8 threat-detection heuristics (SQLi, path traversal, brute-force) and a multi-provider LLM layer for dynamic rule generation.
- Published **data-profile**, an open-source data-profiling package running automated statistical analysis (correlation, functional-dependency mapping, outlier detection) to optimize LLM context payloads.
- Contributed to Gramener's open-source topic-modeling CLI, improving document classification via OpenAI embeddings and clustering.

Software Developer Intern - Annam.AI

May 2025 – Jul 2025

- Cut proximity-search latency from 350 ms to 70 ms (**5×**) via Uber H3 geospatial indexing for 1–10 km radius queries.
- Engineered a FastAPI backend across 5 domains (auth, job board, chat, rentals, profile); held p95 < 200 ms at **500+ concurrent users** under Locust load.
- Secured stateless sessions and rate-limited OTP verification using Redis and JWT.

PROJECTS

LedgerPay: High-Concurrency Payment Engine [GitHub]

May 2026 – June 2026

Java 21, Spring Boot, Spring Security, Spring Data JPA, PostgreSQL, Docker

- Stress-tested with Testcontainers (real PostgreSQL): 1,000 concurrent withdrawals on a single account settled **exactly 10 and rejected 990 with zero overselling**; sustained **710 TPS** across 5,000 concurrent transfers under worst-case single-row contention, with no lost updates or deadlocks.
- Engineered a deadlock-safe transfer engine using PostgreSQL pessimistic row-locking with deterministic lock-ordering, enforcing double-entry, balance-conserving ledger semantics.
- Guaranteed exactly-once transfers via database-enforced idempotency keys (unique constraint, insert-first), eliminating double-spend on client retries.

WorkZone - Multi-Tenant HR Management Platform [GitHub]

Oct 2025 – Dec 2025

FastAPI, PostgreSQL, Caddy, GCP, JWT, Cloudflare, Gemini API

- Architected schema-isolated multi-tenant backend with dedicated PostgreSQL schemas per tenant across **50+ production APIs**; enforced strict data sovereignty and platform-tenant separation.
- Designed RBAC model supporting employee, manager, recruiter, and admin hierarchies with cross-tenant safeguards; integrated Gemini for resume scoring, AI-led interview evaluation, and policy assistance.
- Built subdomain routing via Caddy reverse proxy + Cloudflare DNS with automated SSL provisioning for tenant custom domains on GCP; implemented tenant-aware connection pooling.

ACHIEVEMENTS

- **Competitive Programming (LeetCode & Codeforces):** LeetCode rating **1850 (Top 7%)**; peaked in the **Top 1.2%** (Rank 455) and **Top 2.4%** (Rank 951) across recent contests.
- **Algorithmic Problem Solving:** Solved **500+ Data Structures & Algorithms** problems across LeetCode and Codeforces, engineering optimized, time- and space-efficient solutions in **Java**.
- **System Threat Forecaster (IITM MLP): Rank 1 of 1,700+.** Malware prediction on 100K-row telemetry via a tuned LightGBM + XGBoost ensemble.

TECHNICAL SKILLS

- **Languages:** Java, Python, C, SQL, Bash
- **Backend:** Spring Boot, FastAPI, Flask, REST APIs, Celery
- **Databases:** PostgreSQL, Redis, MongoDB
- **DevOps & Cloud:** Docker, Git, Linux, GCP, AWS, CI/CD, Nginx, Caddy, Cloudflare